



PROGRESS REPORT NO. 182

TO: Bonnie Arthur, U.S. Environmental Protection Agency (EPA) – via electronic mail
Robert Tan, EPA – via electronic mail

FROM: Denise Mills, Teck American Incorporated (TAI)

Cc: Kris McCaig, TAI – via electronic mail
Rob Orr, TAI – via electronic mail

DATE: September 8, 2021

FILE NO: 01-773180-000

RE: Upper Columbia River (UCR) Remedial Investigation/Feasibility Study (RI/FS) –
Progress Report No. 182 Month Ending August 2021

Pursuant to Paragraph 39 of the June 2, 2006 Settlement Agreement (Agreement), the following is intended to provide a summary of activities completed during the past month in compliance with the Agreement. It is also intended to provide a brief summary of pending and on-going activities.

Soil Amendment Technology Evaluation Study (SATES):

TAI submitted the draft Phase II Data Summary Report (DSR) on May 17, 2021 and submitted a separate draft statistical analysis technical memorandum on July 16, 2021. TAI held a call with EPA and the SATES technical team on August 9, 2021 to review and discuss the Phase II testing results. TAI is awaiting EPA comments on the draft DSR and the draft technical memo.

The first Phase IV soil sampling event was conducted from May 17 through May 21, 2021. The second soil sampling event was conducted from July 20-22, 2021. As of this writing, the third, and final, Phase IV sampling event during 2021 is planned for October 12-14, 2021.

TAI received two publications from EPA on August 25, 2021 that describe EPA protocols for conducting in vitro assays on mice for the evaluation of soil arsenic and lead bioavailability in laboratory studies. As of this writing TAI is reviewing these publications to develop an outline of mouse assay protocols, as suggested by EPA, and to follow up on discussions with EPA regarding the need for a mouse study to validate the results of the SATES field-scale testing results.

Baseline Ecological Risk Assessment (BERA) – TAI submitted the pre-draft terrestrial BERA (the Draft Interim Partial Upland BERA) to EPA on June 24, 2021. A call is scheduled for October 8, 2021 to discuss draft EPA comments on the pre-draft BERA that EPA will provide to TAI in September. It is expected that EPA's draft comments will be used to prepare an agenda for the October 8 call. TAI will provide a response to EPA's final consolidated comments on the pre-draft BERA, which will be provided sometime after the call and will provide as a basis for further discussion with EPA.

Remedial Investigation (RI) Report – TAI submitted the pre-draft RI Report (the Draft Interim Partial Upland RI Report) to EPA on July 30, 2021. This pre-draft report is focused on the terrestrial areas of the UCR site and includes summaries of the Final Human Health Risk Assessment and the Draft Interim Partial Upland BERA. Similar to the Draft Final Interim Upland BERA, TAI anticipates scheduling a call with EPA to discuss initial comments on the pre-draft RI report, likely in early November. Upon completion of EPA's review and following TAI's receipt of EPA's comments on the pre-draft RI report, TAI will provide a response to EPA comments for further discussion with EPA.

2019 Phase 3 Sediment Study:

2019 Phase 3 Sediment Study DSR – TAI submitted the draft DSR to EPA for review and comment on December 23, 2020. TAI received comments from EPA on the draft DSR on March 2, 2021, and submitted responses to those comments and a Draft Final 2019 Phase 3 Sediment Study DSR to EPA on April 1, 2021. TAI received comments on the draft final Phase 3 Sediment Study DSR on June 4, 2021, and submitted responses to EPA's June 4 comments and the revised draft final DSR on July 6, 2021. On August 20, 2021, TAI received additional comments from EPA on the revised draft final DSR. TAI is in the process of reviewing those comments and will submit a subsequent response and additional revisions to the DSR by September 20, 2021 for EPA's review and approval.

Split Sediment and Porewater Chemistry Analyses – TAI received EPA's initial draft interlaboratory split sample comparison and evaluation memorandum via email on June 16, 2020. TAI reviewed the memo and provided comments to EPA on July 14, 2020. Subsequently, EPA requested and TAI provided additional sample splits for analysis in accordance with the EPA's Phase 3 Sediment Study Split Sample Chemistry Quality Assurance Project Plan Addendum that was finalized on September 21, 2020. EPA and TAI participated on a call on May 7, 2021, along with EPA's contract laboratory and TAI's contracted laboratory personnel, to discuss the results of the additional sediment sample analyses. On August 11, 2021, TAI received EPA's revised sediment and porewater split sample chemistry analyses data validation and comparison memo and EPA's response to comments. TAI is reviewing the revised memo and EPA's responses to TAI's July 14, 2020 comments, and is preparing comments on the revised sample comparison memo for submittal to EPA by September 10, 2021.

Bioassay Testing

- TAI received total recoverable metals data from the U.S. Geological Survey Columbia Environmental Research Center (CERC) for the 2019 Phase 3 sediment study bioassay split sample program on January 8, 2021, and total organic carbon data from the CERC bioassay split sample analyses on February 2, 2021. These data were provided concurrently to TAI and EPA.
- On March 31, 2021, TAI received EPA's Data Validation Report for CERC chemistry data for the bioassay split sample program. TAI provided comments to EPA on the Data Validation Report on April 23, 2021. EPA and TAI participated on two phone calls, on April 30 and June 16, 2021, to discuss TAI's and EPA's respective analyses of the Phase 3 bioassay quartz sand control performance and results. TAI later received from EPA a technical memorandum on July 19, 2021, titled "Phase 3 Sediment Study 42-day *Hyaella azteca* Bioassay Quartz Sand Negative Control Performance Evaluation," which summarizes EPA's analysis of the quartz sand negative control performance and provides guidance on the use and interpretation of the results. TAI will consider this information during development of the forthcoming Phase 3 sediment study data analysis technical memorandum and pre-draft riverine BERA.
- TAI received EPA's Interlaboratory Split Sample Bioassay Comparison Memo on June 21, 2021 and the CERC Split Sample Bioassay Results memorandum on July 6, 2021. TAI provided comments to EPA on both memos on July 30, 2021. TAI received CERC's revised Split Sample Bioassay Results memo on August 6, 2021, and provided additional comments to EPA and CERC via email on August 20, 2021. CERC provided a revised Split Sample Bioassay Results memo concurrently to TAI and EPA on August 23, 2021. TAI is reviewing the revised sample comparison memo and CERC's responses to TAI's comments. TAI will submit additional comments, if any, on the revised memo to EPA and CERC on or before September 10, 2021.

Should you have any questions or require any additional information, please do not hesitate to contact me at 509-623-4515.